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First record of *Amanita dunensis* in Italy

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Abstract — *Amanita dunensis* is recorded for the first time in Italy. It was collected in the sandy dunes of Macchiagrande Natural Reserve near Rome (Central Italy). This finding extends the geographic distribution of the species, previously recorded only in France and Spain.

Key words — in situ conservation, rare *Amanita* species, Latium littoral

Introduction

During mycological research aimed at improving knowledge of the fungal biodiversity in Macchiagrande Natural Reserve (Pecoraro & Lunghini 2003, Pecoraro et al. 2003), observations were carried out from November 1996 to January 2001 in different ecosystems included in this area.

The main object of our study was the sand dunes, one of the most interesting natural components in the research area. These dunes, which are the inner core of the coastal dune system, lie in the junction between the evergreen mediterranean maquis shrubs and sand dune environment. Their vegetation is typical of Mediterranean bush, but due to the relative abiotic parameters, species here exhibit a xeromorphic habit (e.g., *Quercus ilex* L., *Pistacia lentiscus* L., *Arbutus unedo* L., *Cistus incanus* L., *C. salviifolius* L., *Phillyrea latifolia* L., *P. angustifolia* L., *Smilax aspera* L., *Juniperus phoenicea* L., *J. oxycedrus* L.). On the other hand, truly sandy and open areas of the dune system are distinguished by psammophilous vegetation with *Pancratium maritimum* L., *Ammophila littoralis* (P. Beauv.) Rothm., and *Eryngium maritimum* L.

In this ecosystem in November 1999 we collected *Amanita dunensis*, a species remarkable due to its rarity and limited geographical distribution.

Materials & methods

The species was identified based on macro- and microscopic observations on fresh basidiomata, following the descriptions of Heim (1963) and Bon & Andary (1983). Notes on morphological characters and ecological conditions were recorded in the field, and samples were taken to the laboratory for microscopic examination. The specimens are deposited in the Herbarium D.L. of Rome (ROHB).

Results and discussion

Amanita dunensis R. Heim ex Bon & Andary, Doc. Mycol. 13(50): 13. 1983.

"*Amanita phalloides* f. *dunensis*" R. Heim, Rev. Mycol. (Paris) 28: 9. 1963, nom. inval.

Pileus 70 mm diam., applanate, not very fleshy, margin finely striate, overall color light grey with slight green tinge. Lamellae white, rather serrate, subadnate; lamellulae present. Stipe 140 × 20–25 mm, slender, subcylindrical, not bulbous, covered with sand over 2/3, whitish. Annulus present but very degraded when collected. Volva saccate, tough and resilient, whitish. Flesh whitish, with cadaverous odour, with application of sulfovanillin turning first intense violet-red, then brown.

Basidiospores 9–11.5(12) × 6.5–8 μm, amyloid, ellipsoid to elongate-ellipsoid. Basidia 50–60 × 10–12 μm, clavate, 2- or 4-spored, without clamp connections. Subhymenial trama subcellular.

Specimens examined: **ITALY**. **Latium**, Macchiagrande Natural Reserve, Fiumicino (Rome), 04/11/1999, leg. L. Pecoraro & D. Lunghini (ROHB D.L. 796).

Heim (1963) first described *Amanita dunensis* from France (Vendée) as *A. phalloides* f. *dunensis* (nom. inval., lacking a Latin description and type); subsequently the taxon name was validated at the rank of species by Bon & Andary (1983). This rare *Amanita* species has been reported in Spain by Castro (1998).

We collected *A. dunensis* in November 1999 for the first time in Italy, within the Macchiagrande Natural Reserve along the Latium littoral toward northern Rome.

A rare species with sabulicolous habit, *A. dunensis* is characterized by a slender aspect, non-bulbous stipe, very well-developed saccate volva, subcellular subhymenial trama, and ellipsoid to elongate-ellipsoid spores (Heim 1963, Bon & Andary 1983). It is the only known *Amanita* species with both a striate cap margin and amyloid spores. Traditionally, a striate margin in *Amanita* has been associated with inamyloid spores (Garcin 1984).

Amanita dunensis differs morphologically from *A. phalloides* (Fr.) Link in the more ellipsoid spores and distinctly striate cap margin and from *A. phalloides* var. *larroquei* F. Massart & Beauvais (Massart 1984, Neville & Poumarat 2004) by a different stipe : pileus ratio, absence of marginal pileus striations, the obvious bulbous stipe, and the pine-wood habitat.

The finding of *A. dunensis* in Italy extends its geographic distribution and emphasizes the ecological importance of the Macchiagrande Natural Reserve as an important center for conservation of rare fungal species.

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